

Testicular Cancer

BACKGROUND

Facts about testicular cancer

- Any male with testicles can get testicular cancer.
- The most common form of cancer in males between the ages of 15 and 40.
- Testicular cancer can occur in one or both testicles.
- The causes of testicular cancer are unknown.
- Regular, monthly self-examination remain the best way to detect testicular cancer.
- When testicular cancer is found in its early stages, there is a very good chance that remission can be achieved.

What is testicular cancer?

- The testicles, also called testes or gonads, are the male sex organs located behind the penis in a pouch called the scrotum. The testes are normally smaller than a golf ball. They produce and store sperm and are the body's main source of the male hormone, testosterone.
- Testicular cancer develops when abnormal testicular cells grow out of control in one or both testicles.
- Approximately 90% of testicular tumors develop in the cells that produce sperm (germ cell tumors).
- Stromal tumors arise in the supportive and hormone-producing tissues of the testicles. These tumors account for less than 4% of adult testicular tumors and up to 20% of childhood testicular tumors.

What are the signs and symptoms of testicular cancer?

Testicular cancer often has no symptoms; however there are some signs that may indicate it. They include:

- A lump or change in one testis that feels different when compared to the other.
- Change in size of the testicle.
- Tenderness, sensitivity or pain in part of the testicle or scrotum.
- A dull ache in the lower stomach area.
- A lump or mass in either testicle or in the scrotum which may not be painful.
- Lower back discomfort.
- Breasts are bigger than usual or tender.

Talk with your health care professional about any questions you may have.

What are the risk factors for testicular cancer?

Risk factors for testicular cancer include:

- Age (In Massachusetts, incidence rates are highest in the 20 to 44 year age group).
- Undescended testicle.
- Men having a sex chromosome disorder (Klinefelter's syndrome), that may be characterized by low levels of male hormones, sterility, breast enlargement, and small testes, are at greater risk of developing testicular cancer.

Possible risk factors:

- Inguinal hernia.
- Testicular trauma.
- Family history of testicular cancer.
- Occupations related to leather processing.

PREVENTION AND SCREENING

How can I reduce my risk of developing testicular cancer?

Although many types of cancer can be prevented by lifestyle changes, there is currently no known way to prevent most cases of testicular cancer.

Screening for testicular cancer?

Most testicular cancers are first detected by the patient, either unintentionally or by self-examination. Screening procedures for testicular cancer include:

- A monthly testicular self-exam, starting at age 15.
- A testicular examination by your health provider every 1 to 3 years as part of a general physical examination.

DIAGNOSIS AND TREATMENT

This site provides general information that may apply to your specific situation. You may visit the National Cancer Institute's web site www.cancer.gov for the most current cancer information and clinical trials. Once there, you will be able to select from a full range of cancer topics. If you want to speak with a cancer information expert confidentially, you may call 1-800-4CANCER (1-800-422-6237) between 9:00 AM - 4:30 PM.

It is always best to discuss your personal risk for cancer as well as your screening, diagnosis and treatment needs with your health care provider before you commit to a course of action.

How is testicular cancer diagnosed?

The medical history will be checked to determine the risk the patient may have for testicular cancer. The health care professional then will first do a general exam of the testes and abdomen to determine if there are any unusual lumps or pain. The general exam will be followed by one or more of the tests mentioned below:

- Ultrasonography uses the images that are produced by the echoes that come from sound waves to visualize and evaluate any abnormalities.

- Blood tests can measure the levels of proteins and enzymes that can increase in the presence of testicular tumors. Alpha-fetoprotein (AFP), human chorionic gonadotropin (HCG), and lactate dehydrogenase (LDH) can be measured. The combination of results can then be used to determine the amount of cancer present and the response to any therapy received.
- A biopsy of the testis is done by removing a piece of abnormal tissue. It is necessary to examine the tissue under a microscope to confirm the presence of cancer before removing the entire testicle and spermatic cord.
- Surgery is done by a doctor through an incision in the inguinal (groin) area to either remove the entire tumor together with the testicle and spermatic cord, or remove only the abnormal tissue while replacing the testicle and spermatic cord back into the scrotum.
- A chest x-ray is done to see if testicular cancer has spread into the lungs or lymph nodes.
- A computerized tomography (CT) scan is a series of detailed pictures of areas inside the body taken from different angles, also called a computerized axial tomography (CAT) scan. CT scans help the doctor detect cancer or the recurrence of cancer.
- A magnetic resonance imaging (MRI) scan uses radio waves and strong magnets instead of x-rays. The energy from the radio waves is absorbed and then released in a pattern formed by the type of tissue and by certain diseases.
- A positron emission tomography (PET) uses radioactive tagged glucose (sugar) that is injected into the patient's vein. Because cancers use sugar much faster than normal tissues, the cancerous tissue will take up the radioactive material that will be viewed on the PET scan.

How is testicular cancer treated?

The three main methods of treatment for testicular cancer are:

- Orchiectomy surgery to remove one or both testicles. This is necessary in all cases of testicular cancer and it may be followed by radiation therapy or chemotherapy (or a combination of the two).
- Retroperitoneal lymph node resection is a surgery done to remove lymph nodes along the abdominal area. This surgery is done based on the type and stage of cancer.
- Radiation therapy is a carefully directed beam of radiation from a machine outside the body directed to the area where the cancer was removed.
- Chemotherapy consists of the use of drugs that can be swallowed in pill form or can be injected from a needle into a vein or muscle. They can also affect some normal cells in your body, however, possibly causing nausea, vomiting, changes in appetite, loss of hair, bleeding or bruising.

STATISTICS

How many people are diagnosed with testicular cancer? How many people die from it?

- The American Cancer Society estimates that in 2007 there will be 7,920 new cases of testicular cancer in the United States.
- The American Cancer Society also estimated that in 2007 there will be 380 deaths from testicular cancer in the United States.
- The national five-year relative survival rates for 1996-2003 show that 96.4% of males under 50 years of age and 89.7% of males that are 50 years of age and older survive five years after a diagnosis of testicular cancer.
- In Massachusetts between 2000 and 2004, the age-adjusted incidence rate of testicular cancer for men was 6.2 cases per 100,000 males.
- The age-adjusted mortality rate of testicular cancer among Massachusetts men was 0.3 cases per 100,000 males between 2000 and 2004.
- The age-adjusted incidence rate of testicular cancer is 16.9% higher in Massachusetts than nationally (based on data from the North American Association of Central Cancer Registries, 2000-2004).
- The age-adjusted mortality rate of testicular cancer is the same in Massachusetts as well as nationally (based on data from the North American Association of Central Cancer Registries, 2000-2004).

For additional statistics on testicular cancer in Massachusetts, see Massachusetts Community Health Information Profile (MassCHIP) Instant Topics-Cancer: Testis

[\[http://masschip.state.ma.us/InstantTopics/affiliate.htm\]](http://masschip.state.ma.us/InstantTopics/affiliate.htm). Please click on an affiliation then find testis cancer for the instant topics.

DPH PROGRAMS AND INFORMATION

DPH testicular cancer programs

The Department's Comprehensive Cancer Prevention and Control Program focuses on reducing cancer risk, incidence, morbidity, and mortality by promoting a healthy lifestyle, early diagnosis, treatment, rehabilitation, and access to care. The Department is working to decrease both incidence and mortality from most forms of cancer through strategies designed either to reduce risk factors related to cancer or to encourage early detection of cancers.

Publications and Materials

Reports

The following reports can be accessed from the Massachusetts Cancer Registry website at

<http://www.mass.gov/dph/bhsre/mcr/canreg.htm>

- *Cancer Incidence and Mortality in Massachusetts-Statewide Report, 2000-2004*
- *Cancer Incidence in Massachusetts, 2000-2004: City and Town Supplement*

Brochures

The following materials can be ordered by going to [Massachusetts Health Promotion Clearinghouse](http://www.maclearinghouse.com/) (<http://www.maclearinghouse.com/>).

- Brochure - ***For Guys Only: Important Information about testicular cancer for adolescents*** (available in English, Spanish, and Portuguese)

References

Adami, Hans-Olov, Hunter, David, and Trichopoulos, Dimitrios, eds. *Textbook of Cancer Epidemiology*. New York: Oxford University Press, 2002, pp. 248-280.

RELATED LINKS

DPH testicular cancer programs

Background/General Links

- American Cancer Society (ACS)
Cancer Reference Information: All About Testicular Cancer
http://www.cancer.org/docroot/cricri_2x.asp?sitearea=cricri&dt=41
- National Cancer Institute (NCI)
Testicular Cancer Home Page
http://www.cancer.gov/cancer_information/cancer_type/testicular
- Testicular Cancer: Questions and Answers
http://cis.nci.nih.gov/fact/6_34.htm

Prevention and Screening Links

- National Cancer Institute (NCI)
Testicular Cancer (PDQ): Screening
<http://www.cancer.gov/cancertopics/pdq/screening/testicular/patient>
- Harvard Center for Cancer Prevention (HCCP)
<http://www.hsph.harvard.edu/cancer/>

Diagnosis and Treatment Links

American Cancer Society (ACS)

- NexProfiler Treatment Option Tool for Testicular Cancer
<https://www.cancer.nexcura.com/Secure/InterfaceSecure.asp?CB=277>

National Cancer Institute (NCI)

- Clinical Trials
http://www.cancer.gov/clinical_trials/

- Testicular Cancer (PDQ): Treatment
<http://www.cancer.gov/cancertopics/pdq/treatment/testicular/patient>

Statistics Links

American Cancer Society (ACS)

- Statistics
http://www.cancer.org/docroot/STT/stt_0.asp

Centers for Disease Control and Prevention (CDC) and National Program of Cancer Registries (NPCR)

- *United States Cancer Statistics: 2003 Incidence and Mortality Web-based Report*
<http://www.cdc.gov/cancer/npcr/uscs/index.htm>

National Cancer Institute (NCI)

- Surveillance, Epidemiology and End Results (SEER) Cancer Statistics Review, 1975-2003
http://seer.cancer.gov/csr/1975_2003/sections.html

North American Association of Central Cancer Registries (NAACCR)

- Cancer Incidence Statistics
http://www.naaccr.org/index.asp?Col_SectionKey=11&Col_ContentID=49